

REMARKS

Claims 1-20 are currently pending in the patent application. Applicants have submitted an amendment to independent Claim 11 to address a potential antecedent basis problem and to improve the readability thereof. No new matter is introduced by the amendment.

The Examiner has rejected all of the claims under 35 USC 102(b) as anticipated by the teachings of the Ballard patent (hereinafter "Ballard"). For the reasons set forth below, Applicants believe that the claims are patentable over the cited art.

The present invention is directed to a system, method, and program storage device for providing load balancing among a plurality of mirror servers. When a user at a client machine contacts a web site, the web page and a predetermined script are transmitted to the client. The predetermined script is automatically executed at the client to establish connections with each of the plurality of mirror servers which are associated with the web page and which can serve the client's request. As the connections are established between the client and each of the mirror servers, the response times are measured. The client selects the mirror server with the most favorable response

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time, maintaining the connection with the selected mirror server and terminating the connections with the remaining mirror servers. The "load balancing" is done at the client location by evaluating the response times, which are assumed to be a function of current workload.

The Ballard patent is directed to client-side load balancing in a client/server network. Ballard teaches that each client has client-resident software comprising a server selection function (shown at box 52 of Fig. 6). In addition, each client is provided with a load balance list which is created, updated, and distributed to clients by a system administrator (see: Col. 6, lines 66-67). The load balance list consists of an identification of server computers, and may also include a load percentage for each of the listed server computers (see: Col. 6, lines 5-8). The load percentage is a target percentage, representing what percentage of the client's request load should be sent to each server. As representatively taught at Col. 6, lines 12-14, "Fig. 4A, for example, shows a load balance list in which the load is to be divided equally among four ISP server computers." When a client has a data request to send to a server, the client accesses the load balance list and executes the client-resident server selection function to select one of the servers on the list, and then attempts to

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send the request to the selected server. When the load balance list includes load percentages, then "[o]ver time...the actual load percentage for each server computer in the list 54 converges to the specified percentage in the list 54" (Col. 6, lines 41-44). In other words, the load selection function manages toward the target percentages. "According to an alternative scheme, the load select function may randomly select one of the servers in the list 54 or may perform a round-robin selection, or perform some mathematical computation" (see: Col. 6, lines 41-48).

Applicants respectfully assert that the Ballard patent neither teaches nor suggests the invention as claimed. Under the present invention the client sends a request directly to the web site/server group. The web site responds to the client by transmitting the web page and predetermined executable script. The client executes the predetermined script to establish connections with all of the plurality of mirror servers accessible using that script. Once the connections have been established, the client measures the response times and selects the one of the mirror servers with the most favorable response time. The client evaluates response times as a function of workload and makes the selection as to which server will serve the request. In contrast, the Ballard system executes

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client-resident software to select a single server to be contacted. Moreover, the single server is selected not based on response time, but is selected based on a target percentage, randomly, in a round-robin fashion, or based on a mathematical computation (see: Col. 6, lines 41-48).

With specific reference to the claim language, the claims expressly recite steps and means which are not taught or suggested by the Ballard patent. First, the claims recite that, when a web page is accessed by a client, not only the web page but also a predetermined script is transmitted to the client. The script is not general server selection software, but is predetermined software specific to the mirror servers associated with the specific accessed web page. Moreover, the script is not resident at the client computer, but is dynamically downloaded to the client based on access to the particular web page. The claims additionally recite automatically executing the received script at the client so as to respectively create connections with each of the plurality of mirror servers. In contrast, the Ballard system and method selects only one server with which to establish a connection. Further, the pending claims recite that the client computer measures response times for each of the plurality of mirror servers with which it establishes connections. Ballard does not

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establish connections with more than one server and provide no teaching or suggestion of measuring response times. Finally, the present invention teaches and claims selecting a mirror server having the shortest response time for the user to access. Ballard selects a server based on a load percentage, randomly, in a round-robin fashion or based on a mathematical computation. Clearly, Ballard is not teaching or suggesting that a server is selected based on comparison of response times for multiple servers over multiple connections. Since all of the dependent claims recite steps or means for performing the foregoing steps, it cannot be maintained that Ballard anticipates the claim language.

It is well established under U. S. Patent Law that, for a reference to anticipate claim language under 35 USC 102, that reference must teach each and every claim feature. Since the Ballard patent does not teach sending predetermined script with a web page from the server group to the client in response to a client request, does not teach executing received script at the client, does not teach the client creating connections with a plurality of mirror servers, does not teach client measurement of response times, and does not teach client selection of a mirror server having the most favorable response time, it cannot be maintained that the Ballard patent anticipates the

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invention as claimed in independent Claims 1, 11, and 20. Applicants further point out that a reference which does not anticipate the language of independent claims cannot be said to anticipate the language of claims which depend therefrom and add further limitations thereto. Accordingly, Applicants conclude that the Ballard patent does not anticipate the language of any of Claims 1-20.

Based on the foregoing amendments and remarks, Applicants respectfully request entry of the amendments, reconsideration of the amended claim language in light of the remarks, withdrawal of the rejections, and allowance of the claims.

Respectfully submitted,

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